OmniSwitch 6600 Series

High Availability Advanced Workgroup Switching

ALCATEL

OmniSwitch 6600 series are advanced 10/100 based stackable multi-layer Layer 3 workgroup switches that provide high availability and intelligence with features designed especially for IP Communications and mission-critical environments. These switches are optimized for voice and data integration in the wiring closet and at the edge of the network.

The OmniSwitch 6600s, featuring an innovative virtual chassis technology, allows administrators to configure and manage a stack of up to eight switches as if it were an eight-slot chassis switch. The OmniSwitch 6600s provide multi-layer security, high availability, intelligent switching and routing services – all at wire speed.

OmniSwitch OS6600-24

The OmniSwitch 6600 series offers an extensive set of features making them ideal for a variety of network environments such as:

- Enterprise workgroups/LAN wiring closets

- Edge deployments and branch offices

- Converged voice and data environments

OmniSwitch 6600 Family

OmniSwitch OS6600-48

The OmniSwitch 6600 series consists of the OS6600-24 and the OmniSwitch-48 which provide 24 and 48 ports 10/100 RJ-45 copper ports respectfully, two expansion slots for optional two port Gigabit stacking modules and/or two port fiber or copper Gigabit uplinks and a slot on the back of the chassis for pluggable backup power supply. Along with copper based versions the OmniSwitch 6600-U24 offers 24 SFP based 100Base-FX ports that accept industry standard 100Base-FX optics instead of RJ-45 copper 10/100 ports. The OmniSwitch 6600-P24 adds standards based power over Ethernet capability to the OmniSwitch 6600 family.

OmniSwitch OS6600-U24

Key functionality includes:

- Virtual chassis technology

- Wire-speed intelligent switching/routing

- Multi-layer security

- Dynamic mobility

- In-line power distribution*

OmniSwitch OS6600-P24

*Contact for availability

Virtual Chassis

A unique feature of the OmniSwitch 6600s is the concept of a **virtual chassis**, which provides similar availability, functionality, and manageability features of an eight-slot chassis to a stack of OmniSwitch 6600s. The virtual chassis concept enables administrators to configure a complete stack of OmniSwitch 6600s through a single IP address and to treat each unit as a slot in a chassis. This simplifies and reduces configuration time through the command line interface (CLI) and the embedded web-based management application, which the OmniSwitch 7000 and 8000 next generation chassis-based switches also offer. Additionally, software images and configuration files can be very easily synchronized across an entire stack of OmniSwitch 6600s.

The virtual chassis feature enables high availability because each element added to a stack provides a fully redundant management capability should the primary management module fail. An OmniSwitch 6600 stack automatically elects, on a recurrent basis, a primary and backup chassis manager. Network resiliency and availability is further enhanced with the ability to hot swap any switch in a stack, uplink expansion modules, and redundant power supplies.

Multi-layer Security

As organizations open up their networks for e-business and external users, a secure infrastructure architecture needs to be designed and managed. **Multi-layer security** enables sophisticated hardware and software-based solutions that can be integrated with policy-based management and other technologies such as smart cards, PKI, and biometrics for enhanced security implementations. As part of the Alcatel CrystalSec security framework, OmniSwitch 6600s provide an arsenal of security features that can be implemented at the edge and throughout the network. This includes extensive features such as out of the box lockdown configuration, user authentication, VLANs, access control lists (ACLs), authenticated switch access, encryption, and denial of service protection.

For secure management, there are many features integrated into the architecture including authenticated user access, SNMPv3 and SSL for encrypted sessions, and partitioned management for multi-tiered access and granular network administration.

OneTouch Manageability

OmniVista, the Alcatel voice and data network management platform, features *OneTouch manageability*, which allows network managers to quickly configure and manage the switches in their network. For example, OneTouch QoS is a feature of PolicyView, the Alcatel policy management software that allows network managers to quickly assign QoS priorities to network traffic based on the characteristics of different applications, and with "one-click" automatically configure every Alcatel switch in the network.

The OmniSwitch 6600s also offer service-level and policy-based configurations with support for LDAP directories, enabling flexible integration with existing platforms and extended offerings. It includes RMON support with a choice of interfaces for administrators – a command line interface (CLI), SNMP, fully edit-able text-based configuration file, and a standard Web-browser interface.

Dynamic Mobility

Users are becoming increasingly mobile, creating challenges for administrators. The OmniSwitch 6600s feature *dynamic mobility*, which simplifies the task of managing remote and mobile users. This allows users to move anywhere in the network without having to reconfigure each time. Users can change locations, connect to a new network port, and have access to all their resources without administrator intervention. Dynamic mobility can be fully integrated with authentication to provide secure mobility across an entire network. The OmniSwitch 6600s provide the highest flexibility and the most extensive VLAN capabilities in the industry to support mobile user environments.

System Features

- Virtual chassis- stack of up to eight elements managed like an eight-slot chassis
- Distributed L2/L3/L4 services and processing
- Provides non-blocking store-and-forward switching fabric
- Wire-speed layer 2 frame forwarding
- Wire-speed layer 3 IP packet forwarding
- Wire-speed access control lists (ACL)
- Wire-speed multicast switching
- Port mirroring
- 802.3ad and Alcatel's OmniChannel port aggregation with port failure recovery and load balancing based on MAC addresses
- Per-port flood limiting
- Redundant stacking link
- Automatic over-temperature shutdown
- DHCP/BootP relay support
- SSH

Hardware Features

- OS6600-24, OS6600-48, OS6600-P24 10/100 Ethernet auto-sensing and auto-negotiation, non-blocking, full duplex
- 1000BaseX (fiber) and 1000BaseT (copper) 2 port expansion modules
- OS6600-U24: 100Base-FX SFP ports
- 2 port stacking expansion module

Chassis

- Fixed 24 or 48 port units with two expansion slots
- (OS6600-U24): One slot in back of chassis for optional redundant AC power supply
- (OS6600-P24): Connector provided for connection to optional external redundant chassis and PoE power supply module.

Expansion Modules

- The OmniSwitch 6600 supports 1,000 Mbps Ethernet fiber and 1000BaseT (copper) interface expansion modules.

Technical Summary

Switch Architecture

Switching capacity

OmniSwitch OS6600-24, OS6600-P24, OS6600-U24: 12.8 Gbps

OmniSwitch OS6600-48:: 17.6 Gbps

Redundant, hot-swappable/hot insertable

- Uplink modules
- Redundant power supplies
- Individual switches within the stack

In-line power for IP phones*

- Provides 210 watts of inline power
- IEEE802.3af compliant in-line power detection and delivery

Number of power supplies supported

- OmniSwitch 6600 supports one for primary power and one optional power supply for redundancy

Input voltage and current ratings

- 85 – 270 VAC
- 1.21 Amps (max.) at 110 VAC
- 0.60 Amps (max.) at 220 VAC
- 47-63 Hz
- -24 VDC input power

VLAN Support

- Up to 4,096 802.1Q tag value support
- Configuration per port, MAC address, layer 3-based, port binding and protocol type, DHCP
- Authenticated and policy-based VLANs
- Hardware support for 802.1p-tagged frames
- Network mobility

Advanced QoS Features

- Strict priority queuing with four queues per port
- L2, L3, and L4 priority classification based upon MAC SA/DA, MAC group, IP SA/DA, IP subnet, Internet Protocol, IP multicast address, IP multicast address group, TCP/UDP, VLAN, port, interface type

Routing Protocol Support

- RIP v1/v2
- OSPF
- VRRP

*Contact for availability

Physical Dimensions
OS6600-24/48 & U24

19 in. rack mount (kit included)

23 in. rack mount (kit available)

Width: 17.20 in. (43.69 cm)

Height: 2.65 in. (6.73 cm)

Depth: 14.00 in. (35.56 cm)

Weight

OS6600-24: 13 lbs. (6 kg)

OS6600-48: 14 lbs. (7 kg)

RPS: 2 lbs. (1 kg)

Operating Environment
Total heat dissipation

OS6600-24: 205 BTU ave/hr,
340 BTU max/hr

OS6600-48: 296 BTU ave/hr,
340 BTU max/hr

Storage temperature: 14 to 158 °F
(-10 to 70 °C)

Operating temperature: 32 to 113 °F
(0 to 45 °C)

Humidity: 5% to 95% (Non-condensing)

Operating altitude: Sea level to 10,000 feet (3 km)

Standards and Certifications
Standards (abridged)

IEEE 802.1D Spanning Tree Protocol

IEEE 802.1D-1998 Priority and Dynamic Multicast Filtering

IEEE 802.1p

IEEE 802.1Q VLAN Tagging

IEEE 802.1s Multiple Spanning Tree*

IEEE 802.1w Rapid Reconfiguration (Fast Spanning Tree)

IEEE 802.1x Port-based network access control

IEEE 802.3 10BaseT Ethernet

IEEE 802.3ab 1000Base-T twisted-pair Gigabit Ethernet

IEEE 802.3ad Dynamic link aggregates

IEEE 802.3af Power over Ethernet*

IEEE 802.3u 100BaseTX, 100BaseFX Fast Ethernet

IEEE 802.3x Full Duplex with Flow Control

IEEE 802.3z 1000BaseX fiber optic Gigabit Ethernet

RFC 768 UDP

RFC 791 IP

RFC 792 ICMP

RFC 793 TCP

RFC 826 ARP

RFC 854 Telnet

RFC 903 Reverse ARP

RFC 925 Multi-LAN ARP/Proxy ARP

RFC 1058 RIPv1

RFC 1191 Path MTU Discovery

RFC 1493 Bridge MIB

RFC 1519 Classless Inter-Domain Routing (CIDR)

RFC 1542 BOOTP

RFC 1587 OSPF NSSA Option

RFC 1724 RIP v2 MIB

RFC 1757 RMON (groups 1, 2, 3, and 9)

RFC 1765 OSPF Database Overflow

RFC 1812 IP router requirements

RFC 1850 OSPF2 MIB

RFC 1907 MIB-II

RFC 2011 SNMPv2 MIB for the IP using SMIv2

RFC 2012 SNMPv2 MIB for the TCP using SMIv2

RFC 2013 SNMPv2 MIB for the UDP using SMIv2

RFC 2096 IP Forwarding MIB

RFC 2138 RADIUS

RFC 2233 Interfaces MIB

RFC 2236 IGMP & IGMPv2

RFC 2328 OSPFv2

RFC 2338 VRRP

RFC 2453 RIPv2

RFC 2644 IP router requirements

RFC 2665 Ethernet MIB

RFC 2674 VLAN Management MIB

RFC 2737 (Entity MIB using SMIv2) Version2

RFC 2819 Remote Network Monitoring MIB

RFC 2863 Interfaces Group MIB

RFC 2933 IGMP v2 MIB

Certifications/Safety

EMC Compliance: EN55024 1998; EN55022 Class A/B; FCC Part 15, Subpart B, Class A/B; VCCI-V3/97.04 Class A/B; EN61000-3-2; EN61000-3-3; EN61000-4-2; EN61000-4-3; EN61000-4-4; EN61000-4-5; EN61000-4-6; EN61000-4-8; EN61000-4-11; AS/NZS 3548, Class A/B; CE Marking per EMC Directive

Safety Compliance: 21 CFR 1040; AS/NZS 3260; CB with all national deviations (IEC 950); CE Marking per Low Voltage Directive; CSA-C22.2 no.60950; TS 001; UL 60950; EN60825-1; EN60825-2; TUV GS Mark (EN60950); UL-AR: Argentina Certification

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Ordering Information

Model Number	Description
OS6600-24	OmniSwitch 6600 chassis w/DES, 3DES, RC2 & RC4. [ECCN 5A002] 24 port 10/100 chassis with 2 open slots for optional uplinks or stacking module and one slot in back for an optional redundant and hot swappable backup AC power supply. Advanced Routing and/or Authentication software is sold separately. Country specific power cord required.
OS6600-P24*	OmniSwitch 6600 chassis w/DES, 3DES, RC2 & RC4. [ECCN 5A002] 24 port power over Ethernet 10/100 chassis with 2 open slots for optional uplinks or stacking module. Chassis power and power over Ethernet are provided through internal power supplies. Maxmum of 210 watts of power avalable to power in-line 802.3af compliant devices. Backup power for the chassis and power over Ethernet provided by a separate external redundant power supply chassis. Advanced Routing and/or Authentication software is sold separately. Country-specific power cord required.
OS6600-U24	OS6600 chassis w/SSL (DES,3DES,RC2,RC4). [ECCN 5A002]. 24 port 100Base-FX SFP chassis with two open slots for optional expansion modules and one slot in back for an optional redundant and hot swappable backup AC Power Supply. SFP ports accept industry standard 100Base-FX optical transceivers which are sold separately. Advanced Routing and/or Authentication software is sold separately.
SFP-100-LC-MM	100BASE-FM multimode 62.5/125 and 50/125 micron fiber, supports distances up to 2km; uses LC connectors
SFP-100-LC-SM15	100BASE-FS single mode 9/125 nm fiber, supports distances up to 15 km; uses LC connectors.
SFP-100-LC-SM40	100BASE-FS single mode 9/125 nm fiber, supports distances up to 40 km; uses LC connectors.
SFP-100-MTRJ-MM	100BASE-FM multimode 62.5/125 and 50/125-micron fiber, supports distances up to 2km; uses MTRJ connectors.
OS6600-48	OmniSwitch 6600 chassis w/DES, 3DES, RC2 & RC4. [ECCN 5A002] 48 port 10/100 chassis with 2 open slots for optional uplinks or stacking module and one slot in back for an optional redundant and hot swappable backup AC power supply. Advanced Routing and/or Authentication software is sold separately. Country specific power cord required.
OS6600-BPS	Hot Swappable AC Backup Power Supply for the OmniSwitch 6600 series switch. Backup power supply is optional. Country specific power cord required.
OS6600-STK-KIT	Stacking Kit for the OmniSwitch 6600 switches, includes one 2 port stacking module and one 30cm in length stacking cable. Same stacking module as the OS6600-RST-KIT, but with a short cable.
OS6600-RST-KIT	Redundant stacking Kit for the OmniSwitch 6600 switches, includes one 2 port stacking module and one 1 meter in length stacking cable. Same stacking module as the OS6600-STK-KIT, but with a longer cable.
OS6600-3M-KIT	Extended length stacking kit for the OmniSwitch 6600, includes one 2 port stacking module and one 3 meter in length stacking cable. Same stacking module as the OS6600-STK-KIT, but with a longer cable.
OS6600-GNI-C2	2 port Copper Gigabit Ethernet expansion module with 2 RJ-45 connectors.
OS6600-GNI-U2	2 port mini-GBIC universal Gigabit Ethernet expansion module. Requires mini-GBIC transceiver.
OS6600-SW-AR	OS6600 Advanced Routing Software. Includes support for OSPF.
OS6600-SW-AS	OS6600 Authenticated Software w/MD5. [ECCN 5D002] OmniSwitch 7000 Authentication Services software is for Authenticated VLANs and administrative access (user or user partitioned commands) utilizing a remote AAA server. Support is provided for standards-based RADIUS and standards-based LDAP v3 for authorization, authorization and accounting, and RSA ACE/Server direct for authentication based on one-time password tokens (SecurID).
OS6600-SW-SBR-N	Authenticated SBR-MS sw w/MD5, RC4, MD4, DES. [ECCN 5D002] OmniSwitch 6600 Authentication Services software bundled with Funk Software's Steel-Belted Radius Enterprise Edition for Microsoft Windows.
OS6600-SW-SBR-S	Authenticated SBR-Sun sw w/MD5, RC4, MD4, DES. [ECCN 5D002] OmniSwitch 6600 Authentication Services software bundled with Funk Software's Steel-Belted Radius Enterprise Edition for Sun Solaris.
MiniGBIC-SX	MiniGBIC Transceiver (SFP MSA) – 1000Base-SX for Multimode fiber.
MiniGBIC-LX	MiniGBIC Transceiver (SFP MSA) – 1000Base-LX for singlemode fiber.
MiniGBIC-LH-70	MiniGBIC Transceiver (SFP MSA) – 1000Base-LH for singlemode fiber.

*Contact for availability

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